

Title (en)

Process for estimating the channel from the PSS signal in a LTE communication network, and receiver for the same

Title (de)

Verfahren zur Kanalschätzung aus einem PSS-Signal in einem LTE-Kommunikationsnetzwerk und ein dazugehöriger Empfänger

Title (fr)

Procédé d'estimation d'un canal à partir d'un signal PSS dans un réseau de communication LTE et récepteur correspondant

Publication

EP 2264961 A1 20101222 (EN)

Application

EP 09368020 A 20090619

Priority

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Abstract (en)

A Method for estimating the channel in a Long Term Evolution (LTE) communication system, said method involving the step of extracting a Primary Synchronization Signal (PSS) from a received signal and further involving the step of spanning said PSS based Least Square (LS) channel estimation on the 64 sub-carriers so as to facilitate the MMSE channel estimation. Preferably, the spanning is performed by means of an interpolation of the particular sub-carriers which are not allocated to said PSS (#-32, d.c.) The method involves the steps of: - Perform LS channel estimation on the 62 sub-carriers containing the PSS (40) - reconstruct the LS channel estimation on the 64 central sub-carriers by interpolating (41) on subcarriers not allocated to said PSS; - Apply (42) an Inverse DFT or Inverse Fast Fourier Transform - Extract (43) the L first samples, with L corresponding to the length of the channel; - multiply (44) by $F L H \# \text{c} F L + \tilde{A} 2 \# \text{c} C h - 1 - 1$ - Zero-pad (45) the resulting signal to length 64 ; - Apply (46) a DFT or an FFT

IPC 8 full level

H04L 25/02 (2006.01)

CPC (source: EP US)

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Citation (applicant)

"SESIA Stefania, TOUFIK Issam, BAKER Mattew", 2009, WILEY, article "LTE - The UMTS Long Term Evolution: from Theory to Practice"

Citation (search report)

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